Australian Bureau of Statistics

1270.0.55.005 - Australian Statistical Geography Standard (ASGS): Volume 5 - Remoteness Structure, July 2011

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Summary

Main Features

PREFACE

This publication is the fifth and final volume of a series detailing the new Australian Statistical Geography Standard (ASGS). This publication describes the Remoteness Structure of the ASGS.

The Remoteness Structure provides a geographical standard for the publication of statistics by relative remoteness.

The ASGS brings all the regions for which the Australian Bureau of Statistics (ABS) publishes statistics within the one framework. It is the framework for understanding and interpreting the geographical context of statistics published by the ABS. The ASGS has been in effect since July 2011. The ABS encourages the use of the ASGS by other organisations to improve the comparability and usefulness of statistics generally.

As a whole the ASGS represent a more comprehensive, flexible and consistent way of defining Australia's statistical geography than the previous geographic classification used by the ABS, the Australian Standard Geographical Classification (ASGC). For further information, or to assist you to move from the ASGC to the ASGS please refer to the ABS website at <https://www.abs.gov.au/geography>.

This publication is volume 5 of a series detailing the ASGS. Already published are:

- Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011 (cat. no. 1270.0.55.001) released in December 2010.
- Australian Statistical Geography Standard (ASGS): Volume 2 - Indigenous Structure, July 2011 (cat. no. 1270.0.55.002) released in September 2011.
- Australian Statistical Geography Standard (ASGS): Volume 3 - Non ABS Structures, July 2011 (cat. no. 1270.0.55.003) released in July 2011, updated in July 2012.
- Australian Statistical Geography Standard (ASGS): Volume 4 - Significant Urban Areas, Urban Centres and Localities, Section of State, July 2011 (cat. no. 1270.0.55.004) released in October 2012.

The digital boundaries, codes and names for the regions described in this volume are available free of charge from the ABS website at <https://www.abs.gov.au/geography>.

Any enquires regarding the ASGS and the Remoteness Structure or suggestions for their

improvement can be made by emailing geography@abs.gov.au

About this Release

This volume details the concepts and criteria used to define Remoteness Areas (RAs) under the Australian Statistical Geography Standard (ASGS). The digital boundaries, names and codes of these regions are available as downloads from the ABS Website.

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Introduction

INTRODUCTION

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  The ASGS Remoteness Structure

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The ASGS Remoteness Structure

PURPOSE

This volume describes the Remoteness Structure of the Australian Statistical Geography

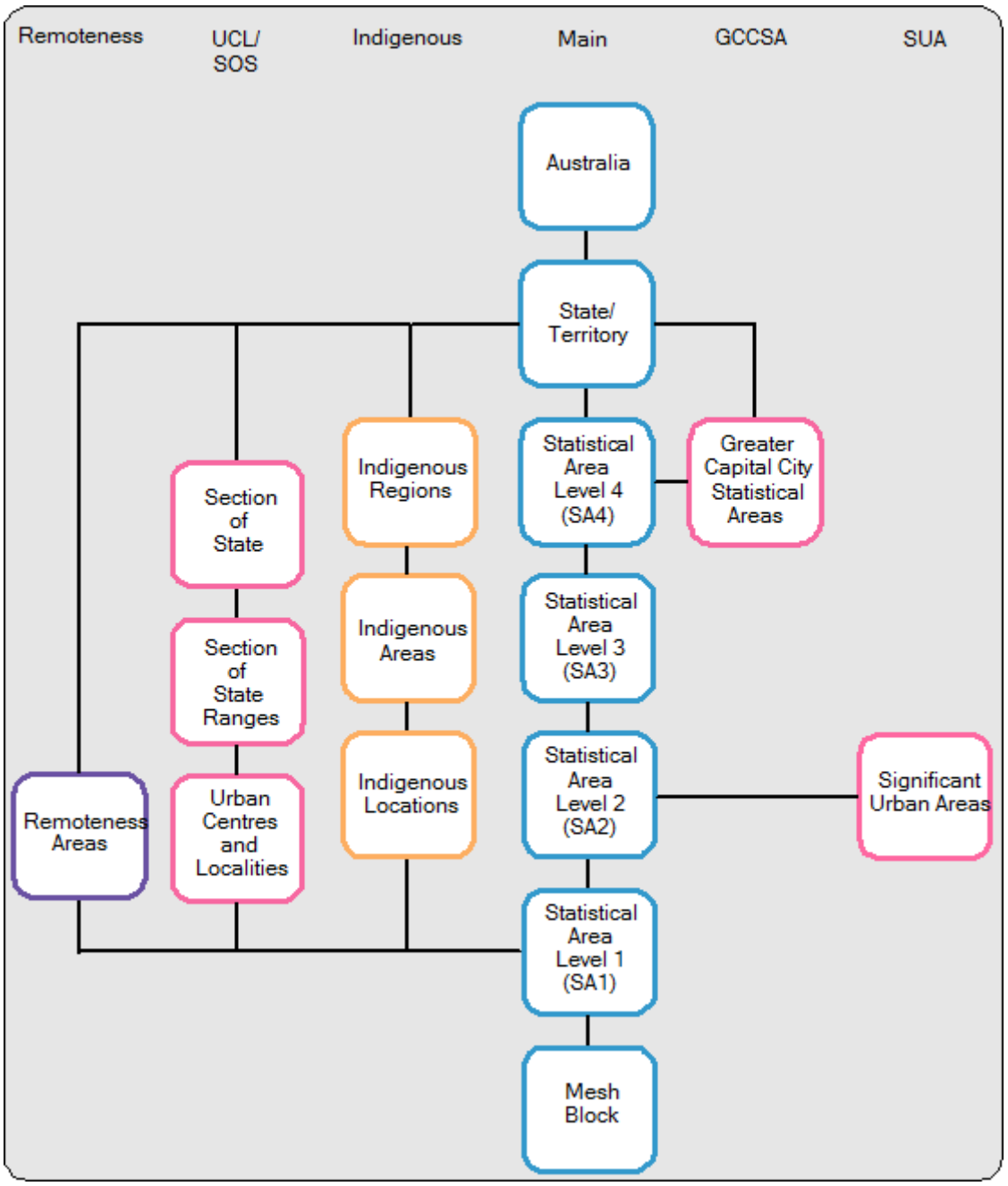
Standard (ASGS). For this structure it details:

- the purpose of the structure
- the hierarchy of regions
- the delimitation of the Remoteness Areas (RA)
- its comparability with past Remoteness Structures
- naming conventions
- coding conventions.

CLASSIFICATION STRUCTURE

Diagram 1 below depicts the Remoteness Structure, its component regions and how they relate to the rest of the ASGS. The Remoteness Structure is an Australian Bureau of Statistics (ABS) structure as it is defined and maintained by the ABS.

Diagram 1: ASGS ABS Structures



Remoteness Areas

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REMOTENESS AREAS

This section contains the following subsection :

Purpose of Remoteness Areas

Purpose of Remoteness Areas

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PURPOSE

The Remoteness Structure of the Australian Statistical Geography Standard (ASGS) is used to disseminate a broad range of Australian Bureau of Statistics (ABS) social and demographic statistics. It divides each state and territory into several regions on the basis of their relative access to services.

THE STRUCTURE

The Remoteness Structure has only one level above the Statistical Area Level 1 (SA1) of the ASGS Main Structure. The Remoteness Structure is categorised into Remoteness Areas (RAs). RAs aggregate to states and territories (S/Ts) and cover the whole of Australia without gaps or overlaps.

From the Mesh Block level, the complete list of spatial units in this structure are:

- Mesh Blocks
- SA1s
- RAs
- S/Ts
- Australia.

For more information regarding the Mesh Blocks, SA1s and S/Ts, please refer to Australian

Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011 (cat. no. 1270.0.55.001).

DELIMITATION OF RAs AND NAMING OF RAs

The delimitation criteria for RAs are based on the Accessibility/Remoteness Index of Australia (ARIA+) developed in 2000 by the then Commonwealth Department of Health and Aged Care (DHAC) and the National Key Centre for Social Applications of GIS (GISCA). GISCA is now incorporated into the Australian Population and Migration Research Centre (APMRC). ARIA+ measures the remoteness of a point based on the physical road distance to the nearest Urban Centre in each of five size classes. For more information on ARIA+ see the University of Adelaide website at <http://www.adelaide.edu.au/apmrc/research/projects/category/about_aria.html>.

The University of Adelaide provides the ABS with ARIA+ as a one kilometre grid covering all of Australia. Each grid point is allocated a value that is determined using the methodology found in the link above. The ABS utilises the ARIA+ grid to create RAs.

The ASGS SA1 boundaries are overlayed onto the ARIA+ grid and an average score is calculated based upon the grid points that are contained within each SA1. The resulting average score determines which remoteness category is allocated to each SA1.

Table 1 details each RA category including RA names and the SA1 average ARIA+ value ranges.

Table 1, 2011 Remoteness Areas for Australia

RA Category	RA Name	SA1 Average ARIA+ Value Ranges
0	Major Cities of Australia	0 to 0.2
1	Inner Regional Australia	greater than 0.2 and less than or equal to 2.4
2	Outer Regional Australia	greater than 2.4 and less than or equal to 5.92
3	Remote Australia	greater than 5.92 and less than or equal to 10.53
4	Very Remote Australia	greater than 10.53
5	Migratory - Offshore - Shipping	
9	No usual address	

Further criteria are used by the ABS to refine RAs. These criteria are applied to remove anomalies that the index may produce and are consistent with the methodology that was applied in the delimitation of the 2006 Remoteness Structure. These criteria are listed below:

- A single SA1 that is not an Urban Centre or Locality and is completely surrounded by SA1s of a different remoteness category is merged into the surrounding remoteness category.
- A cluster of SA1s that make up a Locality of less than 1000 persons that is surrounded by SA1s of a different remoteness category is merged into the surrounding remoteness category.

Note that the above rules do not apply to coastal SA1s where neighbouring SA1s are

classed as a different remoteness category as they are not considered to be completely surrounded.

The Urban Centre and Locality referenced in the above criteria are defined according to the ABS publication Australian Statistical Geography Standard (ASGS) Volume 4 - Significant Urban Areas, Urban Centres and Localities, Section of State, July 2011 (cat. no. 1270.0.55.004) released in October 2012.

Within each S/T, each RA represents an aggregation of non-contiguous geographical areas which share common characteristics of remoteness. While statistical data classed to this structure may be available by S/T, characteristics of remoteness are determined in the context of Australia as a whole, consequently not all RA categories are represented in each S/T as illustrated in Table 2.

SUMMARY TABLE

Table 2 summaries the number of RA categories for each S/T. Not all RA categories are represented in each S/T.

Table 2, Counts for 2011 Remoteness Areas

S/T	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	OT(a)
RA(b)	7	6	7	7	7	6	5	4	4

(a) Other Territories (OT) includes the Territories of Cocos (Keeling) Islands, Christmas Island and Jervis Bay.
(b) Includes records for Migratory - Offshore - Shipping and No usual address for each State and Territory.

COMPARABILITY WITH EARLIER ASGC DEFINITIONS OF REMOTENESS

There has been no substantial change in the methodology used to define the RAs and therefore in most cases it is possible to make a valid comparison of the same RAs across several Censuses. In doing such a comparison it is important to realise:

- remoteness is dynamic, it generally declines over time as new services are built and the road network is improved
- the regions from which they are built (Census Collection Districts prior to 2011 and SA1s in 2011) also change with the underlying settlement pattern.

RA CODING STRUCTURE

A RA is identifiable by a 2 digit hierarchical code. This compromises a S/T identifier code and a RA identifier code. A RA identifier is only unique if it is preceded by the S/T identifier.

For example, the RA coding structure for New South Wales (NSW) is illustrated below in Table 3.

Table 3, RA coding structure for NSW

S/T Code	S/T Name	RA Category	RA Code	RA Name

1	New South Wales	0	10	Major Cities of Australia
1	New South Wales	1	11	Inner Regional Australia
1	New South Wales	2	12	Outer Regional Australia
1	New South Wales	3	13	Remote Australia
1	New South Wales	4	14	Very Remote Australia
1	New South Wales	5	15	Migratory - Offshore - Shipping (NSW)
1	New South Wales	9	19	No usual address (NSW)

RELATED MATERIAL

The following related material is available for the 2011 Remoteness Structure at <https://www.abs.gov.au/geography>

- Maps of the 2011 RAs for each S/T in '.pdf' format
- Digital boundaries for the RAs as ESRI Shape files and as MapInfo Interchange Format files (mid/mif)
- Codes, labels and hierarchies for RAs in '.csv' format
- Selected correspondences between RAs and other ASGS regions.

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History of Changes

This document was added or updated on 24/07/2014.

24/07/2014 - The publication replacement corrects the 2011 Remoteness Area category data for the 'Jervis Bay' part of the 'Other Territories'.PDF map. No other data is affected.

Explanatory Notes

Metadata for Digital Boundary Files

METADATA FOR DIGITAL BOUNDARY FILES

Australian Statistical Geography Standard (ASGS) Volume 5 – Remoteness Areas (cat. no. 1270.0.55.005)

Data Currency - 1 July 2011

Presentation Format - Digital boundaries

Custodian - Australian Bureau of Statistics

DESCRIPTION

Abstract

The Australian Statistical Geography Standard (ASGS) is a hierarchical classification system of geographical regions and consists of a number of interrelated structures. The ASGS brings all the regions for which the Australian Bureau of Statistics (ABS) publishes statistics within the one framework and is used by the ABS for the collection and dissemination of geographically classified statistics. The ASGS has been in effect from the 1 July 2011. The ASGS provides a common framework of statistical geography and enables the production of statistics which are comparable and can be spatially integrated.

This product, **Australian Statistical Geography Standard (ASGS) Volume 5 – Remoteness Areas** (cat. no. 1270.0.55.005), is the fifth in a series of volumes that detail the various structures and regions of the ASGS. Its purpose is to outline the conceptual basis for the design of the Remoteness Structure. This product contains several elements including the manual, region names and codes, digital boundaries and maps.

The digital boundaries for Volume 5 of the ASGS represent the 2011 Remoteness Areas (RAs) which are the categories for the Remoteness Structure.

FILE STRUCTURE

File Nomenclature

File names have the format RA_2011_AUST where:

- <RA> equals Remoteness Areas, the type of boundaries in each file
- <2011> represents 2011 the year of the Australian Statistical Geography Standard (ASGS) Edition
- <AUST> indicates the data covers all of Geographic Australia as defined in the Australian Statistical Geography Standard (ASGS): Volume 1 – Main Structure and Greater Capital City Statistical Areas, July 2011 (cat. no. 1270.0.55.001).

Within the files, the states and territories (S/T) are identified by unique one digit codes, as in the table below.

State and Territory Codes and Names

Code	S/T
1	New South Wales
2	Victoria
3	Queensland
4	South Australia
5	Western Australia
6	Tasmania
7	Northern Territory
8	Australian Capital Territory
9	Other Territories

File Attributes
All tables show file type, file name, spatial unit field and the data type.

File Type: Remoteness Areas (RAs)

File Name: RA_2011_AUST

Field (mid/mif)	Field (ESRI shp)	Data Type
RA_CODE_2011	RA_CODE11	Character (2)
RA_NAME_2011	RA_NAME11	Character (50)
STATE_CODE_2011	STE_CODE11	Character (1)
STATE_NAME_2011	STE_NAME11	Character (50)
AREA_ALBERS_SQKM	AREA_SQKM	Float

DATA CURRENCY

Date of Effect: 1 July 2011

DATASET STATUS

Progress - Completed dataset

Maintenance and Update Frequency
No further update for these boundaries are planned. The Remoteness Structure will be revised for the 2016 Census of Population and Housing.

ACCESS

Stored Data Format
The digital boundary files are in MapInfo Interchange Format (.mid.mif) and ESRI Shapefile (.shp) format.

MapInfo Interchange Format can be imported directly into MapInfo and other common Geographic Information Systems (GIS) or desktop mapping packages. The .mid.mif files are in text format and can be edited and manipulated for import to less common GIS and CAD systems.

The .mid.mif files cannot be used directly with viewing tools such as MapInfo ProViewer.

Access Constraints

Datum
Geocentric Datum of Australia 1994 (GDA94)

The digital boundary files have the datum specified as 116 (GDA94). Users of MapInfo 6.0 or later are able to load data sets based on GDA94 directly, without transformation. Earlier versions of MapInfo cannot interpret GDA94 correctly and there may be alignment problems between data sets based on this datum and other earlier datums.

Projection - Geographical (i.e. Latitudes and Longitudes)

Geographic Extent - Geographic Australia as defined in the Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011 (cat. no. 1270.0.55.001) released in December 2010.

DATA QUALITY

Lineage

Mesh Blocks are the building blocks of the ASGS regions. Mesh Block boundaries were created using various sources including the PSMA digital topographic datasets, ABS SLA boundaries, zoning information from state planning agencies and imagery.

Positional Accuracy

Positional accuracy is an assessment of the closeness of the location of the spatial objects in relation to their true positions on the earth's surface.

The positional accuracy includes:

- a horizontal accuracy assessment
- a vertical accuracy assessment

Positional accuracy for ABS boundaries is dependent on the accuracy of the features they have been aligned to. ABS boundaries are aligned to a number of layers supplied by PSMA with an accuracy of +/-50 mm.

PSMA layers and their positional accuracy are as follows:

- Transport and Topography
  +/- 2 meters in urban areas and +/- 10 meters in rural and remote areas
- CadLite
  +/- 2 meters in urban areas and +/- 10 meters in rural and remote areas
- Administrative Boundaries
  Derived from the cadastre data from each Australian state and territory jurisdiction
- Greenspace and Hydrology
  Relative spatial accuracy of these themes reflects that of the jurisdictional source data. The accuracy is +/- 2 metres in urban areas and +/- 10 metres in rural and remote areas

Attribute Accuracy

All codes and labels for the ASGS 2011 Remoteness Structure are fully validated.

Logical Consistency

Spatial units are closed polygons. Attribute records without spatial objects have been included in the data for administrative purposes.

Completeness
All geographic levels of the 2011 Remoteness Structure are represented.

CONTACT INFORMATION

Any questions or comment can be emailed to geography@abs.gov.au

Information about CSV Files

INFORMATION ABOUT CSV FILES

The product **Australian Statistical Geography Standard (ASGS) Volume 5 - Remoteness Structure, July 2011** (cat. no. 1270.0.55.005) contains comma-separated value (.csv) files. These files list the codes, labels and hierarchies for all the regions within the ASGS Remoteness Structure.

There are two .csv files listing the geographical hierarchies for each of the following regions:

- Remoteness Structure 2011
- Statistical Area Level 1 (SA1) 2011 and Remoteness Structure 2011

The hierarchies are listed from the lowest level of the ASGS up.

FILE CONTENTS

The **RA_2011_STATE_2011**.csv file includes the following fields:

RA_CODE_2011

RA_NAME_2011

STATE_CODE_2011

STATE_NAME_2011

AREA_ALBERS_SQKM

This lists the Remoteness Areas and their state or territory. It also gives the area in square kilometres of the RA, based on Albers Conic Equal Area projection.

The **SA1_2011_RA_2011_STATE_2011**.csv file includes the following fields:

SA1_MAINCODE_2011

SA1_7DIGITCODE_2011

RA_CODE_2011

RA_NAME_2011

STATE_CODE_2011

STATE_NAME_2011

AREA_ALBERS_SQKM

This lists the SA1s, the Remoteness Areas and their state or territory. It also gives the area in square kilometres of the SA1, based on Albers Conic Equal Area projection.

Information About 2011 Remoteness Structure PDF Maps

INFORMATION ABOUT 2011 REMOTENESS STRUCTURE PDF MAPS

The product **Australian Statistical Geography Standard (ASGS): Volume 5 – Remoteness Structure, July 2011** (cat. no. 1270.0.55.005) contains Adobe .pdf format maps for the 2011 Remoteness Areas (RA).

The .pdf maps are available for each state and territory (S/T) and one for Geographic Australia.

Each map shows all the RA categories for that S/T excluding Migratory - Offshore - Shipping and No usual address.

Abbreviations

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographical Classification
ASGS	Australian Statistical Geography Standard
Aust.	Australia
GIS	geographic information system
GISCA	National Centre for Social Applications of GIS, University of Adelaide
NSW	New South Wales
NT	Northern Territory
OT	Other Territories
Qld	Queensland
RA	Remoteness Area
S/T	state or territory
SA	South Australia
SA1	Statistical Area Level 1
Tas.	Tasmania
Vic.	Victoria
WA	Western Australia

Effective Dates of Remoteness Structure Editions (Appendix)

APPENDIX EFFECTIVE DATES OF REMOTENESS STRUCTURE EDITIONS

APPENDIX

ASGS Edition	Effective Date
2011	1 July 2011

ASGC Edition	Effective Date
2006	1 July 2006
2001	1 July 2001